

### ABSTRACT

A node size estimation tool for calculating a node size for at least one of interactive video, voice or data services placed on a system is provided. The estimation tool includes a computer processor and data storage device in communication with the computer processor. A data entry device is provided in communication with the computer processor and the data storage device. First means are provided for receiving data on bandwidths for the downstream and upstream passbands. Second means are provided for receiving data on node splitting information on a number of nodes per transmitter that will share the same services. Third means are provided for receiving data on any limitations on the upstream and downstream passbands that are unavailable for use by the system. Fourth means are provided for receiving data on requirement information for services including at least one of analog broadcasts, digital broadcasts, polled access/control, cable modem, telephony, interactive video and video on demand services, including at least one of a required channel width and channel quantity for upstream and downstream service, and the type of data modulation and payload data rate per channel to be utilized. Fifth means are provided for receiving data on at least one or estimated service penetration rates for homes passed that will subscribe to each of the services, estimated simultaneous use rates, and a desired downstream data rate to be received by each subscriber. Sixth means are provided for processing the data received in the first through fifth data receiving means to calculate the node size for the system. A method of calculating node size utilizing the tool is also provided.